Mark Wendruff - August 2010

December 21, 1994

Just before Christmas, 1994, a London based paramedic was having a quiet morning coffee break when he got an alert from his control room about a casualty collapsed on a pavement in Golders Green. The coffee and its accompanying bun landed in the street and he rushed up to Finchley road, NW11. There, he found a middle aged man pounding on the chest of the casualty. The diagnosis appeared to be a full cardiac arrest. Luckily for the casualty, his employer had seen CPR administered a few years before, and the paramedic, Russell, was equipped with an AED. Needless to say, I was that man lying unconscious on the street.

I awoke the next day in a cardiac unit at hospital, and, upon seeing my wife, Adele, sitting next to my bed; I asked her what was going on. Her answer was ridiculous. "You're in the cardiac ward of the hospital. You collapsed on the pavement outside your office yesterday morning. Your heart had stopped and you were brought here by paramedics in an ambulance. You're going to recover, but you must rest now." I explored my memory to attempt to make some sense of what she said. I could remember nothing of the day before. I remembered nothing of the previous week.

My chest hurt me due to receiving CPR (Cardio-Pulmonary-Resuscitation) from my employer who was the first person to find me on the pavement, and being shocked (defibrillated) with a portable defibrillator carried by the paramedic who treated me on the pavement. He and the ambulance crew who also responded, worked on me for about 30 minutes, got my heart restarted, and put me in the ambulance for the journey to the hospital. I arrested several more times in the ambulance and was shocked each time to keep my heart going. Once in casualty, I was treated for the Ventricular Fibrillation which almost killed me. The heartbeat speeds up so much that it ceases to beat and can only vibrate chaotically, unable to pump blood through the body.

My Daughter, Jenny, later told me that Russell, the first paramedic to arrive who restarted my heart, was crying with relief once the resuscitation team in the hospital's casualty unit had stabilised me. He told her that casualties of SCA (Sudden Cardiac Arrest) were rarely saved because so few people know how to administer CPR. Russell told my wife that I was his first arrest save in the six months he had been qualified as a paramedic! So, my boss, Stuart, was the first hero of the day when he began thumping my chest while awaiting the professionals.

I had been stabilised, but the arrhythmia was a major concern. Subsequent diagnostics showed that my disorder might not respond to a simple drug treatment. The cardiologist told Adele that an ICD (Implantable Cardioverter Defibrillator) might be necessary.

By the middle of that first week, the cardiologist was certain of the need for the ICD. That's great, I thought. What's a defibrillator? Who puts it in me, and when, and where? After a

lot of consultation amongst wife and doctors, the consultant cardiologist at the hospital, here in London, was contacted by Adele. He was a leading ICD specialist as well. He readily agreed to handle my case and arranged for my transfer on December 30th. By the time I was transferred, I was feeling much stronger, but still confused. My questions were soon to be answered.

When my consultant came to see me, we got down to business immediately. "So, how are you feeling, Mark?" "I feel pretty good. What's a defibrillator?"

He cleared up most of the mysteries regarding my arrhythmia and gave us an explanatory pamphlet. We learned that ICD's were fairly new technology, in use for about 5 years or so. They're like having your own personal paramedic on hand. The unit was fairly compact, about the size of a pack of playing cards, and would be inserted in my abdomen below the rib cage on my left side. It was to be connected directly to my heart by sensing/pacing leads running up the side of my chest just beneath the skin. Once it was implanted and thoroughly tested, it could detect and properly deal with irregularities of the heart rhythm quite independently by delivering pacing or shock therapy to my heart and storing the data for later interrogation by the defibrillation clinic's computer.

My implantation took place on January 12, 1995, three weeks after my cardiac arrest. When I regained consciousness in my ward, I was told that the leads would not defibrillate my heart when tested. They decided to let me rest for two days and then try again. We didn't know what to think. Apparently, an adjustment to the leads' connections was necessary.

On Saturday morning, 14th January, I made my second journey to theatre. When I regained consciousness, I asked the nurse what was the news, and she smiled back and said it was in there and working properly. The consultant came along a while later to confirm the good news. He added there was no reason why I couldn't go home after a further test of my unit in five days' time.

On Thursday, January 19th, they repeated the test on my unit, and when I opened my eyes, the cardiologist and the ICD technician told me that was it. The ICD was performing its permanent sentry duty on my heart's rhythm. The next day, Friday, Adele would come by to collect some of my things and we would go home on Saturday. On Friday evening, I was just settling down with a book for my last quiet night on the ward, when my son, Andrew, peered at me from round the door, and said, "Hi. Let's go home!" Then, we packed up to go home to my other two children, Jennifer, and Alex. Another "Routine" miracle had been accomplished.

Two months after my discharge from hospital, I was at home signing Alex's homework diary when I arrested again. Within less than a minute, my ICD began pacing therapy. I regained consciousness, but was still in Atrial Fibrillation (AF) with my chest vibrating and jumping. I had enough presence of mind to call for my daughter downstairs. By the time she had run up the stairs to us, the ICD had discharged a full defibrillation shock which returned my heart to normal sinus rhythm. I felt a bit shaky for a short while, but was fine otherwise. Let me tell

you, that it is quite an experience when it first happens.

I contacted the Defibrillation Clinic and they called me in the next day for analysis of my unit's response. The computer confirmed that I had, indeed, experienced ventricular fibrillation again, which was successfully dealt with by my ICD unit.

I went back to work in early May of 1995, having explained to my employer, the one who began the CPR on me while I was lying unconscious on the pavement, that I would have regular clinical checks every few months. That was fine with him. I like that man; he helped to save my life, and he also signed my paycheque every month.

Later that month, while at home, my unit discharged a shock while I was fully conscious. Apparently, I was going into AF, and the ICD didn't distinguish between AF and VF, so it went off, anyway. The same thing occurred again in November 1995. That time, I was admitted to hospital and started on an anti-arrhythmic drug. The cardiologist also did some fine-tuning on the ICD. Everything settled down to normal once more.

During the Spring and Summer of 1995, I felt strong enough to begin riding my bicycle again, and gradually increased my working hours to full time, as well. The drug was working well during the Autumn, and the few side effects that surfaced initially in the early winter were eliminated by reducing my dosage by a third. More progress followed. My driving licence, revoked in 1995, was renewed in July, 1997, following an eight month campaign of letters, reports, medical panel meetings and phone calls to the DVLA.

During 1998, I was functioning normally, being careful about getting enough sleep and not overtaxing myself. But, later in the year I began to experience episodes of fluttering in my chest and dizzy spells. My drug dosage was adjusted and stress tests were conducted, but no light could be shed on why it was happening.

On the night of January 30, 1999, I woke up at about 1:00 am, feeling dizzy and nauseous. I knew immediately what it was and I told my family I had arrested (SCA) again and the ICD had done its job. A day or so later, at my clinic, the ICD and the computer confirmed that this had occurred. While I was fast asleep, I went into VF, and my ICD had gone off and saved me again. Without it, I would not have survived.

This time, my beta blocker dosage was increased to its original level and the episodes eased off. It appears that my ICD is a very necessary backup to the drug. At this time, my unit began to exhibit a drop in its battery charge, necessitating replacement during the spring of 1999. This surgery was done in March of that year, when I received a newer, smaller, (and more comfortable) model. I returned to work about three weeks after the implant surgery.

Some further complications arose in 2003, when I began to experience severe fatigue problems on a daily basis. I thought they were side effects of my drug, so I told the cardiology team about it. I was amazed when the cardiology registrar said he thought my mitral valve might be the

culprit. After more investigations, this was confirmed. I was born with a prolapse mitral valve which was never diagnosed and wasn't discovered until I was 23. In December, 2003, I underwent open heart surgery and an artificial mitral valve was inserted. The faulty mitral valve was the probable cause of my original arrest. Oh, great. Can you take out the defibrillator now? No, an arrhythmia is for life.

In late Spring, 2008, we were preparing for our daughter's wedding in August when the cardiology team at my current pacing clinic informed me that ICD number 2 was due for renewal in the summer! The timing was very tight, but they managed to do the deed in late July, and we were at the wedding in mid-August. My new ICD is a wireless unit implanted in my left shoulder. It gets interrogated every three months by a modem on my bedside table; which then dials a server on the internet for later downloading by the pacing clinic.

The ICD has saved my life twice. I cannot emphasize more strongly the need for AEDs to be available in all public places, including schools, universities, major office buildings, sports venues, stations. I think CPR should be part of a young person's education at school. The man who was pounding on my chest had no idea if he was doing it correctly. My paramedic, Russell, told me that that man kept oxygenated blood circulating in me until the AED could be used. There is no other way to put it. The MEDICALERT system is also a major backup. If, for some reason, the ICD is not functioning, the bracelet I wear will ensure the correct information is available immediately. VERY IMPORTANT.